Summer 2015

The Quarterly Hail

National Weather Service - Hastings, Nebraska

Volume 5, Issue 2

Notes From the Meteorologist In Charge

As I write, we are in the throes of typical Nebraska and Kansas spring weather: severe weather, severe weather, severe weather! If all continues as normal, we should continue to see active severe weather through June, and then transition into a more tranquil summer pattern. Time will tell.

From the "What's new department": Jake Petr, who is a meteorology student at the University of Nebraska-Lincoln, will be joining our staff this summer. Jake worked here as a volunteer last summer and did great work. We are excited to have him join the staff this summer. Also, Clint Aegerter, a student volunteer from the University of Nebraska-Lincoln will be working at the office this summer. We have some projects in mind that Clint will help us out with and look forward to getting to know him better.

From the home office, we continue to work toward the goal of helping to create a "Weather Ready Nation". We, the NWS, have a limited role in the nation becoming weather ready. It is the individual citizen who plays the biggest role in the nation becoming weather ready! We are encouraging you, your family, your community and your work place to understand the threats that weather in our area can cause and be prepared in case they impact you. The last thing we like to see is the person with the TV microphone in their face in front of a tornado ravaged house and the person utters, "I didn't know what to do when I heard the warning and my family wasn't prepared to shelter or recover from this disaster."

As part of the Weather Ready Nation initiative is a program called "Weather Ready Ambassadors". We invite your community organizations, schools, and workplaces to become Weather Ready Ambassadors. Through the program, you will help the NWS spread the message of preparedness and awareness into your community.

Visit the following website for more information on the Ambassadors program:
www.nws.noaa.gov/com/weatherreadynation/ambassadors.html
Also, feel free to call either Mike Moritz or Steve Eddy for more information.

From my desk, I thank you for your service and assistance to our office and I implore you to stay weather aware and safe while providing your valuable weather reports!

Steve Eddy
Meteorologist In Charge, National Weather Service Hastings, Nebraska
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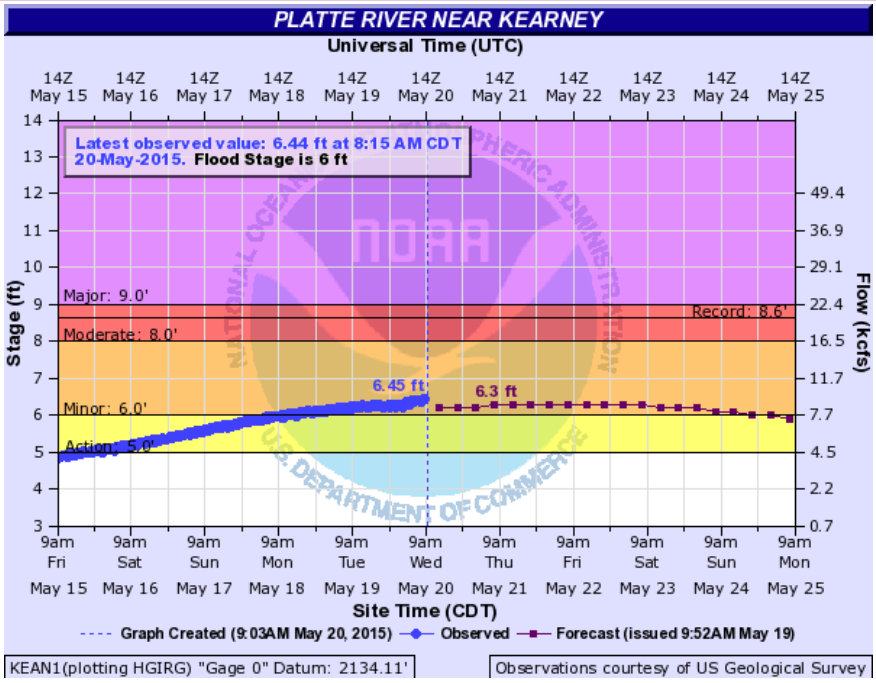
Inside this issue:

Special Points of Interest:

- *Beat the Heat! Check the back seat!*
- *Do you know what a hydrograph is?*
- *Not Every Summer is Hot and Dry!*
- *See us at the NE State Fair!*
- *How many days on average does Grand Island hit at least 100°?*

Product Highlight - Understanding A Flood Warning



Did you know that the NWS provides not only forecasts and severe weather information, but hydrology information as well? When rivers are flowing high, gauges along the rivers measure the height or stage of the river. These stages are then sent via satellite or phone line back to the NWS. If flood waters reach a predetermined stage that will likely cause impacts to personal lives or property, then a flood warning is issued. Before flooding occurs, surveys have already been conducted along the rivers to determine exactly what stage will begin to cause impacts.

What: Flood Warnings and Hydrographs

Where is it located?

Warnings appear bright green on the watch/warning/advisory map at www.weather.gov/hastings Clicking on the warning will take you to the forecast page, where you can access the text product.

To view the hydrograph, go to this website http://water.weather.gov/ahps2/index.php?wfo=gid and click on your point of interest.

What information does this provide?

Flood warnings indicate the current stage of the river, the flood stage of the river and expected impacts of the flooding. It also provides a forecast as to just how high the river will climb and how long the river stage will be at that level.

Hydrographs provide a visual way to look at the stage data. Time is denoted on the x-axis separating the past real time data, versus the future forecast. The stage height is denoted on the y axis. The line in blue represents actual stage values of the river up until the current time. If a purple dotted line is present; this represents the river stage forecast. The colors in the background indicate what type of flooding can be expected at that stage. For example, the area shaded in yellow is called “action.” Action is just like the name says: while no flooding is ongoing, it calls for people to be aware of the situation and take action to be prepared. Minor, Moderate and Major floods indicate higher level impacts. Perhaps lowland flooding is minor, while flooding homes is major. Record flooding at this site is also denoted on the graph.

Cooperative Observer News & Awards

The National Weather Service proudly presented **Lyle Welch** with a 20 year Length of Service Award. Lyle has been a Cooperative Observer for Hubbell, NE since January 1, 1994. The station itself has been open since 1958. There are around ten thousand volunteers like Lyle across the country who take daily observations recording precipitation and/or temperatures 365 days a year. Climate data is used in every aspect of our national economy, from transportation, agriculture, water resources to manufactures. This data plays an important role in the planning and building of infrastructure in the United States.

Since Lyle began recording precipitation, he has measured a total 597.06" of liquid precipitation. Lyle has also measured 582.2" of snowfall during his 20 years as an observer. The wettest year was 2007 with 42.62" and the driest year was 2000 when 18.84" were measured.

Barbara Baca (right), Cooperative Observer at Wilsonville, NE receives her 35 year Length of Service Award from Joseph Guerrero, meteorologist from NWS Hastings. Barbara has been taking precipitation readings since May of 1980. Since then she has measured over 800" of liquid precipitation and over 900" of snowfall.

If you have not done so already, please make sure you have the inner tube and the funnel back on your rain gauges. We have already started to make our yearly site visits. If there is anything you need, like forms, envelopes, a new rain stick, etc; please give us a call at 402-462-2127 and let us know. That way we will be sure to have it when we stop by.

It is with deep sadness that we say goodbye to **Wilbur Becker**, our Cooperative Observer at Mankato, KS. Wilbur passed away on May 8th and will be deeply missed. We always enjoyed visiting with Wilbur and Betty when they called with their precipitation reports.

Welcome to our new observers!

Rick Disney took over the Superior, NE site from Lynn Wilton. He reports temperatures and precipitation. **Bill Blauvelt** is his backup observer.

Mark Oseka is our new observer at Loup City, NE. This site has been without an observer for several years. Mark also reports temperatures and precipitation.

Kenny Garst took over precipitation reporting at Jewell, KS. He used to be our observer at Lovewell Dam.

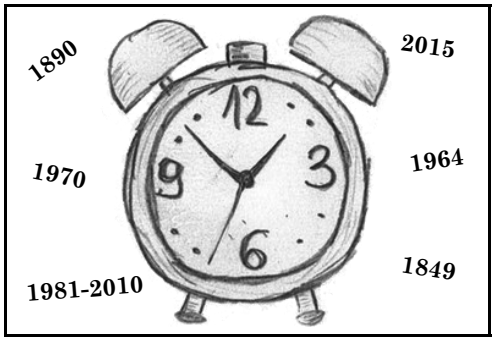
Nebraska State Fair: August 28th - September 7th

Fried Pickles, Concerts, Corn Dogs and the Sky Tram, what could be better? Well, stopping by and seeing us at the Nebraska State Fair, of course!

We will again be staffing a booth at the 2015 Nebraska State Fair. Located in the same location as previous years, you can find us in the southwest corner of the Exhibition Building near the restrooms. Look for newly upgraded "Lightning Ball", and "Tornado Machine."

You can watch live radar coverage, enter to win a NOAA weather radio, watch how lightning is generated and see how a tornado forms all from our booth! Best of all, you can come visit with a meteorologist. Who doesn't love chatting about the weather? So stop by and say "Hello!".

Weather vs. Climate: It's All About Time - *Shawn Rossi, Lead Forecaster*



Your local National Weather Service (NWS) office produces a detailed weather forecast at least every three hours, and for every single day of the year. The NWS also maintains thousands of weather stations across the United States and its territories that record such things as the daily temperature and precipitation (and sometimes much more). The NWS then archives this weather data at the National Climatic Data Center. But what exactly distinguishes this daily weather data from becoming climate data? The simple answer to this question is time.

Beginning in 1849, the Smithsonian in Washington D.C. began collecting weather data, and a decade later, the number of regular weather observations the Smithsonian was receiving had soared to over 500. As a response to the growing demand for weather observations, in 1870, the NWS was born as part of the U.S. Army and took over the responsibility of collecting weather data. So in essence, the NWS has been collecting "weather" data for almost 150 years!

So where exactly does that transition point between weather and climate come? Since climate is defined as the long term weather pattern over a particular location, the actual scientific transition point is vague. As far as the NWS is concerned, however, that period is 30 years. So when you hear that the normal High Temperature for this 4th of July is 88°F, the value of 88°F is based on the prior 3 full decades worth of temperature data for that particular date and location (so in this case, 1981-2010). Extremes, such as the record high and low temperatures for a given day, are based on the entire period of record.

Therefore, climate is what you expect for a particular day, month or season (based on the past 30 years), and weather is what you actually get. If you are interested in browsing the climatological averages or extremes for your particular location across either South Central Nebraska or North Central Kansas, you can access NOWdata from the Hastings NWS web page. NOWdata can be found by selecting the local option under the climate and past weather tab, and then clicking on NOWdata. While over 30 sites across our forecast area can be found here, additional locations from around our forecast area and across the globe can be found at the National Climatic Data Center (www.ncdc.com).

Beat The Heat! Check the Backseat!

Each year, dozens of children and untold numbers of pets left in parked vehicles die from hyperthermia. Hyperthermia is an acute condition that occurs when the body absorbs more heat than it can handle, and can even occur on a mild day. Studies have shown that the temperature inside a parked vehicle can rapidly rise to a dangerous level for children, pets and even adults. Leaving the windows slightly open does not significantly decrease the heating rate. The effects can be more severe on children because their bodies warm at a faster rate than adults.

Safety Tips Concerning Children...

- **Make sure your child's safety seat and safety belt buckles aren't too hot** before securing your child in a safety restraint system, especially when your car has been parked in the heat.
- **Never leave your child** unattended in a vehicle, even with the windows down.
- **Teach children not to play** in, on, or around cars.
- **Always lock car doors and trunks** - even at home - and keep keys out of children's reach.
- **Always make sure all children have left the car** when you reach your destination!

For more information, check out **http://www.nws.noaa.gov/om/heat/index.shtml**

Cooperative Observer Spotlight - Char Nott, 8 S Elwood, NE

I took over the precipitation report when Ed Stoll passed away and Oscar preferred not to follow in his dad's footsteps. If memory serves me correctly, I began in May 1982 and reported to The Corp Of Engineers at Alma/Harlan County Reservoir. As for my history before that time, briefly, I was born in Lexington, NE and am a graduate of Lexington St. Ann's, which is not there anymore! I am so old!! Since my parents were both deceased by the time I was a Junior in H.S., I consider myself an "orphan" of sorts. In 1970, McCook Community College offered me a full ride scholarship in music. I did accept that because of the full ride; I will never talk down Social Security as that was my mainstay from the time my mother passed away when I was 14 years of age. I am yet amazed at what one can do on $44.23 a month! I was employed from the time I was 12 years old; the restrictions for youth employment were nil at that point in time. Weather always intrigued me as my parents had an acreage in SW Lexington where I could see it all! Mother was a very comfortable person, never a worrier, but when the lightning would begin and the rain pounded, we would light the Holy Candles! But science was not my forte, so I never considered a career in that field.

I met Bill at McCook C.C as he was there on a track/football scholarship and roomed with my "Brother/Best Friend" Rick. Not a brother by blood, but in spirit! After one year at M.C.C., I was accepted into the St. Francis Radiology Tech program and came within one year of completing that degree when Bill and I decided to marry. At that time, I would have had to be within 10 minutes of a hospital to be on call, so I dropped out. Not a smart move, but I never considered that I could have stayed in the nearest hospital town, 30 miles from where we would live, when on call. After we married, I attended Cosmetology training, worked in a salon in Elwood for two years, and then started Char's Hillside Salon on our farm after we moved that 8 miles south of Elwood. After 39 years, my salon is still open! That has worked well as I was able to be the semblance of a hired hand, raising our two sons, and still maintain that business. It is my social life! In the middle of all that, while still keeping the salon going, I carried mail for 4 years, was a Field Technician for the Gosper County FSA for ten years, and also have my Electrical Apprentice License as Bill and I started Bill Nott Electric about 20 years ago. That business came to be in the very late 1980s when farm prices got so low that Bill went back to college to get his Electrical Degree. We still maintain our cow calf operation, which I love so much! I can carry buckets, bales, and livestock panels with the "best of them"!

I spoke of music much earlier. I play the guitar and the keyboard at St. Germanus Catholic Church at Arapahoe, and once in a while at St. John's Catholic Church in Smithfield. My voice is aging, but that is my better instrument. I have enjoyed entertaining with song over the years, and have been rewarded spiritually at both weddings and funerals. We are to use our talents for God's Greater Honor and Glory. I pray I have done that! I hope those who hear me will forget the wrong notes I tend to hit!

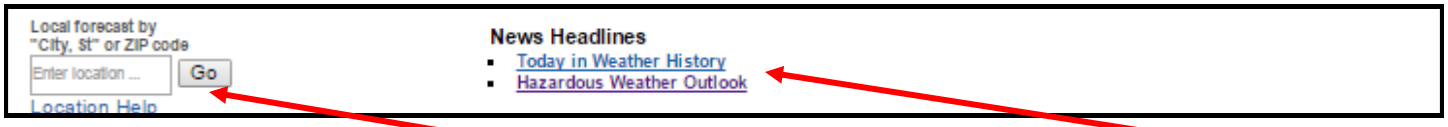
My two sons are into jobs related to science. Zachary is a Strength Coach with the Dept. of the Navy Special Forces in Virginia Beach. His wife, Erica, also works with the military. Their son, Garrick, now 10 moths old, is too far away! Patrick is a Water Technician with Tri Basin NRD in Holdrege. His wife, Madison, is a Physician's Assistant with Phelps Memorial Hospital. I am so very proud of all of them! They are so strong in faith, in their work ethics, and in the love they share! Zach, Pat and I all swam for the Blue Dolphin Swim Team at Arapahoe for several summers. In that time frame, I was a volunteer for the American Red Cross, training over 100 lifeguards for the area towns. I still love to swim and am never ready for summer to end. I was fortunate to qualify for the National Senior Games in 2013, entering two events. That was such a wonderful experience, to see how important exercise and good health are to so many over 55 year olds. My favorite hobby is the 3-4 mile walk I take nearly every day out on our country roads.

Larry Wirth, a former employee of the Hastings NWS was, and is still, close to my heart as we shared a common bond: cancer. That nasty, humbling word! My first breast cancer was in 2001; I went through very extensive treatment and kept on ticking! Then #2 on the other side, being the opposite receptors, entered my picture in 2008. Whew!! But life goes on! I have always had a phrase that has helped me through: I HAVE NO YESTERDAYS, TIME TOOK THEM AWAY. TOMORROW MAY NOT BE, BUT GOD GIVES ME TODAY!

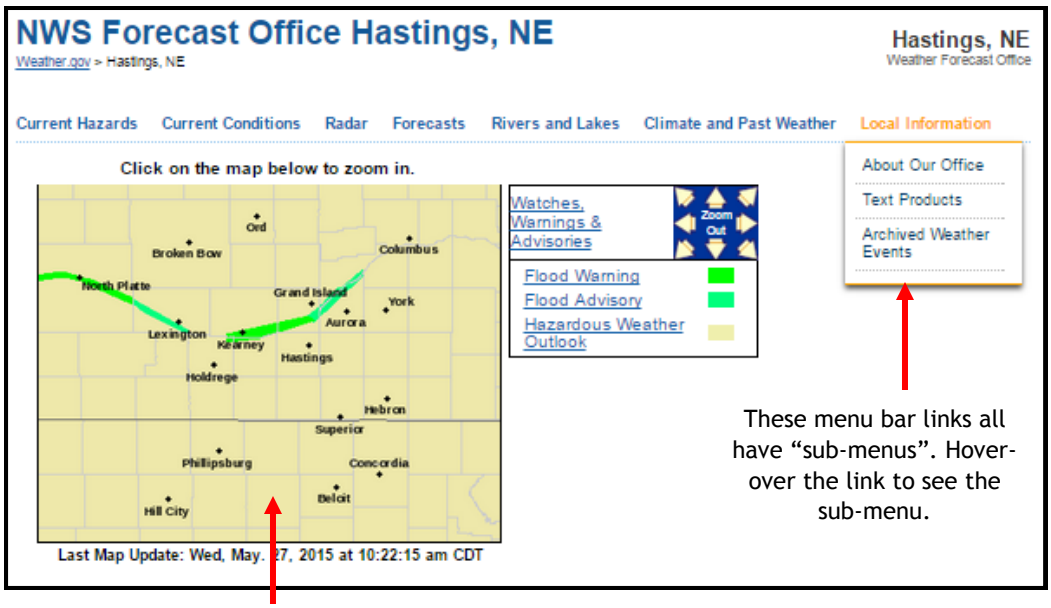
Webpage Changes: Need Help Navigating? - *Mike Moritz, Warning Coordination Meteorologist*

If you a are user of our webpage (www.weather.gov/hastings), you probably noticed some changes a couple months ago. Our entire homepage was revamped. This was a big change and one which we advertised for several weeks. Using the captured webpage on the following page as an example, lets take a few moments to highlight some of the changes. Let's start at the top and work down.

- This menu bar will take you to various links from NWS Headquarters or NOAA. Most of the links look at topics in a "national" scale, or from a larger geographic and informational perspective.



- This section allows you to enter your location (city/zip code) and view the 7-day forecast. The "News Headlines" often contain specialized or additive information depending upon the weather situation. Whenever there is a "News Headline", click on it and find out what the big news is!



- As always, just click anywhere on the map and you will have your 7-day forecast at your fingertips. Above the map is a long menu bar. This replaced the "tabs" on our previous website. Note each of the menu bar options have sub-menus and you will need to "hover-over" the link to see all available links.

- These are all "active" links to various local, regional and national webpages. Check them out!

www.weather.gov/hastings

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Captured on May 27, 2015

HOME | FORECAST | PAST WEATHER | WEATHER SAFETY | INFORMATION CENTER | NEWS | SEARCH | ABOUT

Local forecast by "City, St" or ZIP code
Enter location ... Go
Location Help

News Headlines
- Today in Weather History
- Hazardous Weather Outlook

Customize Your Weather.gov
City, ST
Enter Your City, ST or ZIP Code
Remember Me
Get Weather
Privacy Policy

NWS Forecast Office Hastings, NE

Weather.gov > Hastings, NE

Hastings, NE
Weather Forecast Office

Current Hazards | Current Conditions | Radar | Forecasts | Rivers and Lakes | Climate and Past Weather | Local Information

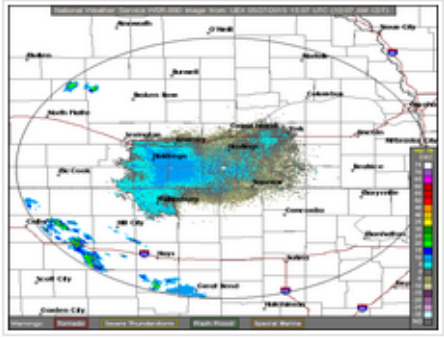
Click on the map below to zoom in.

Last Map Update: Wed, May. 27, 2015 at 10:22:15 am CDT

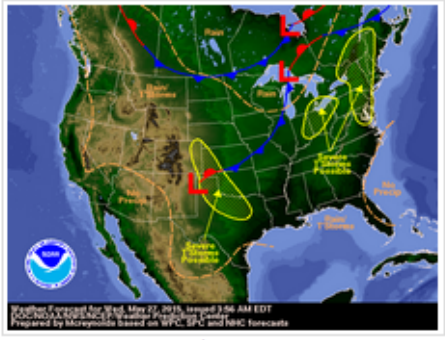
Watches, Warnings & Advisories
Zoom Out
Flood Warning
Flood Advisory
Hazardous Weather Outlook

Have a question?
Need an answer?
Email our webmaster at
w-gid.webmaster@noaa.gov

Weather Story



Local Radar



Weather Map

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HAZARDOUS WEATHER
Enhanced Hazardous Weather Outlook
Submit A Storm Report
Local Storm Reports
Storm Prediction Center

FORECASTS
Area Forecast Discussion
Fire Weather
Aviation Weather Center

CURRENT CONDITIONS
Text Products
Satellite
Rivers and Lakes
Precipitation Analysis
Snowfall Analysis
Snow Cover

CLIMATE
Local Climate Information
Hastings/G. Island Records
U.S. Drought Monitor
Grand Island - Daily
Grand Island - Monthly
Hastings - Daily
Hastings - Monthly
Kearney - Daily
Kearney - Monthly
Ord - Daily
Ord - Monthly

WEATHER SAFETY
Local Preparedness Page
Severe Weather Safety
Lightning Safety
Flood Safety
Winter Weather Safety

ADDITIONAL ITEMS
Archived Weather Events
NOAA Weather Radio
Cooperative Observers
CoCoRaHs

What is an ASOS? *- Mike Bergmann, Electronics Technician*

The Automated Surface Observing Systems (ASOS) program is a joint effort of the NWS, the FAA and the Department of Defense. The ASOS systems serve as the nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year.

Getting more information on the atmosphere, more frequently and from more locations is the key to improving forecasts and warnings. Thus, ASOS information will help the NWS to increase the accuracy and timeliness of its forecasts and warnings.

The primary concern of the aviation community is safety, and weather conditions often threaten that safety. A basic strength of ASOS is that critical aviation weather parameters are measured where they are needed most: airport runway touchdown zone(s).

ASOS detects significant changes, disseminating hourly and special observations via the networks. Additionally, ASOS routinely and automatically provides computer-generated voice observations directly to aircraft in the vicinity of airports, using FAA ground-to-air radio. These messages are also available via a telephone dial-in port. ASOS observes, formats, archives and transmits observations automatically. The ASOS transmits a special report when conditions exceed preselected weather element thresholds, e.g., the visibility decreases to less than 3 miles.

Basic weather elements reported:

- Sky condition: cloud height and amount (clear, scattered, broken, overcast) up to 12,000 feet
- Visibility to at least 10 statute miles
- Type and intensity for rain, snow and freezing rain
- Obstructions to vision such as fog and haze
- Sea level pressure, altimeter setting
- Ambient temperature, dew point temperature
- Wind direction, speed and character (gusts, squalls)
- Precipitation accumulation

Selected significant remarks include variable cloud height, variable visibility, precipitation beginning and ending times, rapid pressure changes, pressure change tendency, wind shift and peak wind.

Like all technology, there are limitations as to what the equipment can do. The main limitation is its ability to see over the horizon. Its eyes only see directly overhead. Should there be a storm front moving in with darkening conditions, ASOS will not detect it until the storm begins to move over the sensors. Likewise, ASOS cannot see patchy fog that is not located directly at the station location.

Therefore, weather around the airport that has not encountered the sensors will not be measured. The system is not designed to report clouds above 12,000 feet, virga, tornadoes, funnel clouds, ice crystals, snow pellets, ice pellets, drizzle, freezing drizzle, blowing obstructions such as snow, dust, or sand, snow fall and snow depth. Many of these elements will be provided by other sources. New sensors are being added to measure some of these weather elements.

As a result, many of the ASOS stations, with staffed air traffic control towers, are monitored and human observers can edit or augment the automated observations.

More information can be found at:
www.nws.noaa.gov/asos
www.faa.gov/air_traffic/weather/asos

Not Every Summer Is Hot & Dry! *- Julia Berg, General Forecaster*

Nearly everyone has heard about the hot and dry years of the 1930s; numerous days over 100 degrees, average highs of over 100 degrees for a whole month and very little precipitation. What about the other extreme? Do you remember a cool summer?

South central Nebraska and north central Kansas have had a few years that have been fairly cool, but one that was the coolest for the entire area was the summer of 1992.

For the month of July, the average high temperature is around 90 degrees and the average low is around 64 degrees. The average precipitation is just a little over 3 inches. This was not the case for 1992. It was not a lot below average, but it was definitely cooler.

JULY 1992	High	Difference	Low	Difference	Precipitation
Grand Island	80.5	-9.0	59.4	-5.3	4.67”
Loup City	80.4	-7.9	57.1	-5.1	4.65”
Alton	86.5	-6.9	60.3	-5.2	6.26”

The warmest temperature reported during the month of July 1992 was 89 degrees in Grand Island, 91 in Loup City, and 96 in Alton, Kansas.

The year of 1992 was a cool year, but 1993 was wet! There was flooding across much of the mid west that summer. Precipitation in July was notably high. In fact, the record precipitation for the month of July occurred in 1993. In Grand Island, there was 10.38”, Loup City had 11.13” and Alton, KS had a whopping 19.27” of rain.

Weather Term Word Search!

Cloudy	Forecast	Lightning
Cold Front	Heat Wave	Radar
Convection	Humidity	Rain
Drizzle	Hurricane	Thunder
Fahrenheit	Instability	Tornado
Flood	Jet Stream	Warm Front
Fog		

T T U C C Y C T I L H F G W M
S I B Q O Z T W O U B H W A C
A E V I F L L I E R U J E R L
C H C J A U D L D R N R R M O
E N E A V N Z F R I T A U F U
R E I F R Z O I R S M Y D R D
O R X A I C C I T O A U R O Y
F H D R R A P E T P N E H N R
O A D B N W J R R C V T O T P
R F D E E V A W T A E H Y Y R
Y T I L I B A T S N I V I D D
X M L I G H T N I N G Q N G E
T H U N D E R D O O L F N O S
T P D M Z O P C E Y R P F F C
V J Q P E E E O U W R K O E F

Employee Spotlight - Jesse Wirtes, Electronics Technician

Hello, I'm Jesse Wirtes and I am the new (if working here for 9 months is new) ET (Extra Terrestrial, Electronics Technician). I have a wife, Melanie, and 2 boys, James and Daniel. We moved to Hastings in August of 2014.

A little about me, I was born in southern California. When I was young we moved between LA, Phoenix and ended up in Las Vegas, where I spent most of my elementary school life. When I was 12 my parents decided to move to England. Why England? My mother is British and decided it was time for a change? They blamed it on some TV series back in the '80s, though. So we moved to her home town of Oswestry in the county of Shropshire. It is in the west England on the North Wales border. I graduated British high school in 1989 and went to college for Computer Sciences.

In 1994, I enlisted in the United States Air Force at RAF Mildenhall, UK and flew to basic training at Lackland AFB in San Antonio, TX. I went to a technical school for Ground Radar Systems. Basically, I worked on all types of ground based radar; Air Traffic Control, Long Range Aircraft Control and Warning Systems and weather radar systems. During my time in the Air Force I was stationed in Las Vegas a couple times, San Antonio, TX, Biloxi MS, Spangdahlem Germany, Mildenhall UK and Vacaville, CA. On September 1, 2014, I retired after 20 years 5 months and 10 days of active duty.

After retiring I figured the weather service would be a good fit. I have extensive electronics and radar knowledge. I had already worked on the NEXRAD radar. So I applied for the opening at WFO Hastings and was hired.

Now that we are settling down and not having to move every couple years, we can focus on our hobbies. I enjoy playing with cars and anything mechanical. I have several that I am working on and building. My wife is into animals and livestock. So she is happy to be able to have her horses on property along with our chickens and goats.

Some Video Training

It is that time of year again where severe weather is most likely to occur in the Hastings forecast area!

Hail falling from thunderstorms that is 1" (quarter size) or greater in diameter is considered to be a severe thunderstorm. CocoRaHS (**www.cocorahs.org**) is a unique, non-profit, community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow). They also produce helpful training videos that can be used as a refresher for measuring hail, snow and even precipitation.

Here are a few videos that may help some of our newer observers and are not a bad refresher even for our more seasoned observers. As always, thank you for your service!

Measuring Hail:
https://www.youtube.com/watch?v=QHvRGa09_ug
Remember! We compare our hail sizes to coins and ball sizes - NOT marbles!

How A Rain Gauge Works:
https://www.youtube.com/watch?v=pLRAsAo5l0o

How To Measure Extreme Precipitation:
https://www.youtube.com/watch?v=j3UZgy5R5jY

Weather vs. Climate:
https://www.youtube.com/watch?v=VHgyOa70Q7Y

The Water Cycle:
https://www.youtube.com/watch?v=ZzY5-NZSzVw

This Table Reflects Various Historical Summer Extremes For The Local Area...

	Hottest Independence Day On Record (High Temp)	Coolest Independence Day On Record (High Temp)	30-Year Average # of Annual Days That Reach *At Least* 100˚	Most # of Annual Days on Record That Reached *At Least* 100˚	30-Year Average Summer Rainfall (June-August)
Grand Island	109˚ / 1936	70˚ / 1915	**3**	47 / 1934	10.82”
Hastings	109˚ / 1936	69˚ / 1915	**3**	55 / 1936	10.84”
Kearney	106˚ / 1936	70˚ / 1931,1915,1905	**3**	40 / 1934	10.29”
Loup City	105˚ / 1936	69˚ / 1976	**1**	25 / 1936	10.45”
Hebron	110˚ / 1936	68˚ / 1915	**5**	43 / 1936	12.64”
Alton, KS	111˚ / 1913	69˚ / 1915	**16**	62 / 1936	10.96”
Plainville, KS	109˚ / 1980,1934	68˚ / 1972	**11**	51 / 1936	10.74”

Summer Climate Outlook Detailed Below...

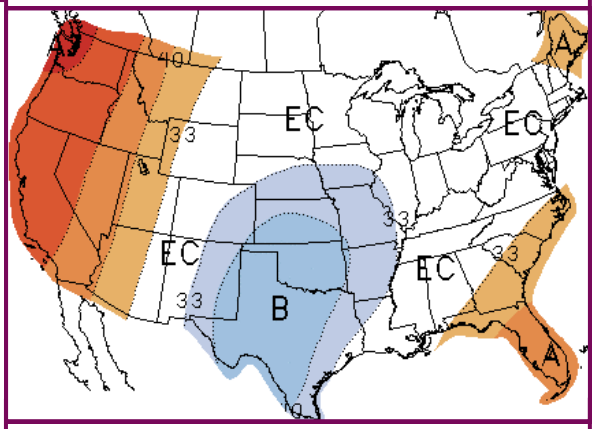
The latest Summer Outlook from the Climate Prediction Center (released on May 21st) slightly favors above normal precipitation and below normal temperatures across the local area of South Central Nebraska and North Central Kansas. These expectations in the longer term weather pattern are consistent with an intensifying El Niño this summer, as above-average sea surface temperatures prevail within the equatorial Pacific Ocean.

Time Frame: The NWS considers the “summer” season to be all of June, July and August. Although this is offset roughly three weeks from the astronomical summer season that runs from June 21-September 22, using these three full months is more convenient for analyzing meteorological data.

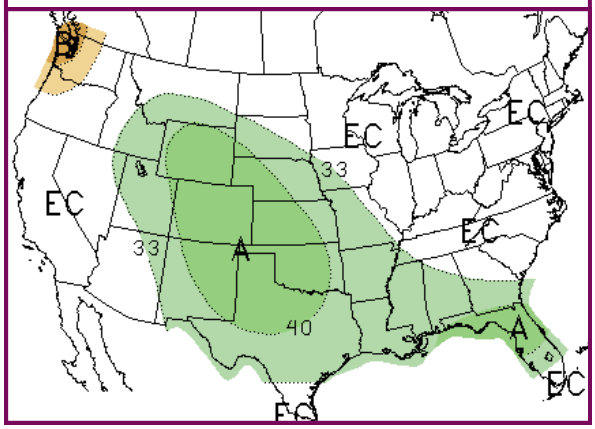
Temperature: The outlook on the right reflects a forecast for the *3-month period as a whole*. We tend to view temperatures in the context of a daily or monthly average, but the 3-month outlook accounts for the entire season. **Red/orange** colors represent “**warmer**” than normal and **Blue** colors represent “**cooler**” than normal. The white area labeled “Equal Chances” designates regions with equal chances of having above, near or below normal temperatures. This means there is no clear trend in the forecast analysis to support one of these three outcomes over another. As the image shows, the entire local area is *slightly favored* (33-40% chance) to observe below normal temperatures for the summer as a whole. However, this still means there is a 33% chance of observing near normal temperatures and a 27-33% chance of above normal temperatures.

Precipitation: Similar to temperatures, the precipitation outlook depicts the total precipitation trend for the entire 3-month period, and is independent of individual days or months. **Green** colors represent “**wetter**” than normal and **Orange/brown** colors represent “**drier**” than normal. The white area labeled “Equal Chances” designates regions with equal chances of having above, near or below normal precipitation. As depicted to the right, the entire local area is *reasonably favored* (33-49% chance) to observe above normal summer precipitation, especially within the southwest half of the area. However, this still means there is a 33% chance of observing near-normal rainfall and an 18-33% chance that rainfall could possibly average below normal. As is the case with the temperature outlook, the precipitation outlook does not forecast *how much* above or below normal precipitation might be.

Temperature Outlook for Summer 2015 (June - August)



Precipitation Outlook for Summer 2015 (June - August)



To view these and other Climate Prediction Center outlooks visit ***http://www.cpc.ncep.noaa.gov/***

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